Science Toolkit: Grade 5 Objective 1.B.1.a

Student Handout: Science: Grade 5 Objective 1.B.1.a

Standard 1.0 Skills and Processes

Topic B. Applying Evidence and Reasoning

Indicator 1. Seek better reasons for believing something than "Everybody knows that..." or "I just know" and discount such reasons when given by others.

Objective a. Develop explanations using knowledge possessed and evidence from observations, reliable print resources, and investigations.

Selected Response (SR) Item

Question

Use the passage 'Making Fresh Water from Salt Water' to answer the following question.

Which statement best explains this observation?

A. The heat from the sun increased the flavor of the salt.
B. The light from the sun turned some of the water into salt.
C. The mass of salt increased to replace the lost water mass.
D. The same amount of salt was present in a smaller volume of water.

Correct Answer

D. The same amount of salt was present in a smaller volume of water.

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Handouts

Making Fresh Water from Salt Water

Although most water on Earth is salt water, humans can only live by drinking fresh water. Fresh water can be produced from salt water by separating the salt from the water.

One method of separating salt from water is distillation. During distillation, salt water is heated until the liquid changes to a vapor, or gas. When the water turns to a vapor, the salt is left behind. When the vapor cools and changes to a liquid, it is fresh water.

The steps for making a simple distillation device are described below:

1. Pour salt water in a bowl.
2. Place an empty cup upright in the middle of the bowl of salt water.
3. Cover the bowl and cup with plastic wrap.
4. Place a small rock on the plastic wrap directly over the cup so the plastic wrap is pushed down slightly.
5. Place the bowl in a sunny location.

The distillation device is pictured below:

Sunlight causes water to evaporate. The vapor collects in droplets on the inside of the plastic wrap and rolls toward the lowest part of the plastic wrap, where the rock pushes it down. The droplets drip into the cup, filling it with fresh water. The salt stays in the bowl.